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5 F

Case Report

5F Bilateral Iliac Treatment in a Symptomatic Patient With 50 Meter Claudication

Vaatgeel, AZ Sint-Dimpna, J.B. Stessenstraat 2, 2440 Geel

QBX 18*

0.018" Balloon Expandable Stent

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Abstract

A 69-year-old male patient with a long history of severe vascular diseases, came to our attention due to a 50 meter claudication.

Image 1. Initial situation

Patient History: Hypertension, smoker hypercholesterolaemia, angor, coronary artery disease.

Diagnosis: Occlusion of the left common iliac artery and dissection of the right common iliac artery (image 1).

Approach: Bilateral iliac approach was performed in order to treat the two lesions but the high calcification in the left iliac only allowed us to perform an angioplasty in the right iliac artery.

Two Week Follow-up: We were able to re-canalize the left iliac artery through a brachial approach and placed a 5F compatible, Micro Invasive Technologies (MIT) **QBX18** peripheral balloon expandable stent system (QualiMed, Winsen, Germany).

1 Year Follow-up: After more than 1 year, the patient came back to our attention with a 200 meters claudication. In this case the 5F approach via femoral artery was preferred: two (2) stent were placed, one in the right iliac artery for definitively managing the dissection and one in the light iliac artery, distally to the previously implanted stent.

See images 2 & 3 both before treatment.

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Introduction

Iliac endovascular interventions are preferably performed by transfemoral ipsilateral approach. Some cases can require a different approach due to the bad conditions of femoral/iliac arteries or to the impossibility to cross the lesions of the target vessel to treat. Alternative vessels for approaching the vascular system are the radial artery, brachial artery or the axillary artery. Radial artery is often used in cardiology and requires very long shaft devices in order to treat peripheral arteries; axillary artery is difficult to compress after the procedure, brachial artery access is a good compromise now that 5F products are available on the market.[1] These 5F devices allow better vessel puncture management of the access site (even when used in the groin) by creating smaller vessel defects. Less invasive products lead to lower complication rates, better morbidity and lower blood loss.[2, 3] The same technology allows the reduction to 0.018" guidewire, enabling the operator to reach the target lesion and cross more easily due to the lower crossing profile with equivalent pushability.

Methods

A 69-year-old male patient was admitted to our department with severe left leg claudication at about 50 meters (Image 1): (TASC B; Fontaine IIb; Rutherford 3). 5F bilateral iliac approach was performed in order to treat the lesions: left iliac artery was attempted but calcification was too diffuse and it was not possible to cross the lesion. Angioplasty only was performed in the right iliac artery thru a 6F ipsilateral approach. The 5F technology was not available in our department at that time.

Two weeks later, a left brachial approach allowed us to recanalize the left iliac artery, an MIT **QBX18** CoCr 8 x 57 mm stent was implanted (QualiMed, Winsen, Germany). After more than 1 year, the patient came back to our attention with a 200 meters claudication; image 2 and image 3 show the situation angiographically. In this case the 5F approach was preferred through the left brachial artery.

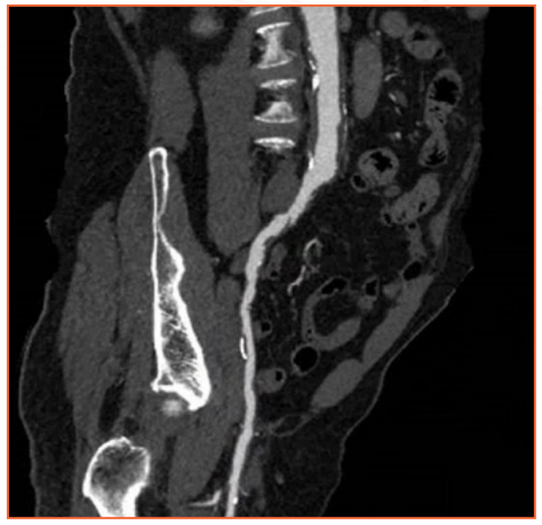

Image 2. Angiographical diagnosis

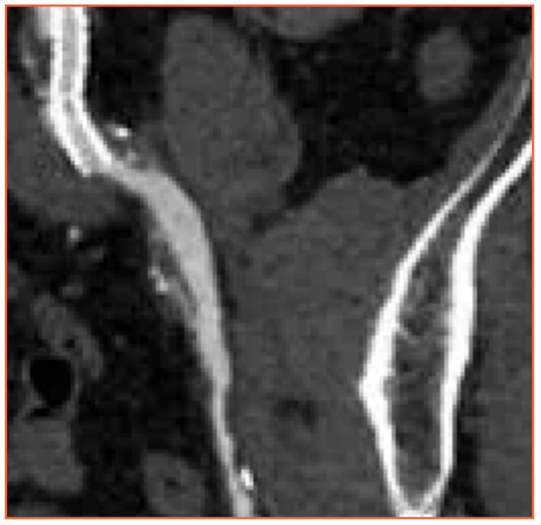

Image 3. Angiographical diagnosis

An MIT **QBX18** CoCr 8 x 57 mm stent on an MIT **GWQ18** 0.018" guidewire (QualiMed, Winsen, Germany) was placed in the right iliac artery for managing the dissection; another MIT **QBX 18** CoCr 7 x 57 mm stent on a 0.018" GW (Qualimed, Winsen, Germany) was placed in the left iliac artery, distally to the previously implanted one.

Current Status: Patient completely recovered, no claudication so far. Drug treatment was left the same as before: Atozet 10/40 mg (ezetimibe/ atorvastatin), Emcoretic 10/25 (bisoprolol/ hydrochlorothiazide), Asaflow 80 mg. Patient was discharged with no claudication and was controlled after 1 year showing no symptoms.

Discussion

Endovascular treatments support modern surgery to be actually less invasive in the endoluminal treatment of sick vessels. Technologies are quickly improving and smaller devices are constantly reducing their invasivity. Lower profile devices, 5F or less, clearly improve patient outcome: access site complication drops, lesions are easier to reach and cross even if they are far from the access site. Very long shafts allow the operator to treat lesions at distances not previously possible from the access site, enpowering operator to choose the best approach for each patient.

Conclusion

Delicate patients like the one we are reporting, require particular care and benefit from special dedicated devices that allow operators to choose the best approach to the problem. It is essential to have as many arrows as possible on your bow to set the best strategy, thus offering each patient the best care. Likely, some companies are moving in order to develop products always less invasive and with very long shaft; a complete portfolio of such products would be essential to manage the procedure from beginning to end, regardless of the type of situation we face. Lower French technology devices allow operators to choose the access site and better manage it: a reduced puncture surface area would translate in a lower access site complication rate, reducing the time of the procedure and avoiding the use of VCD's. Minimal profile of the devices mean a better crossability through a 0.018" wire that allows the user to treat more distal lesions.

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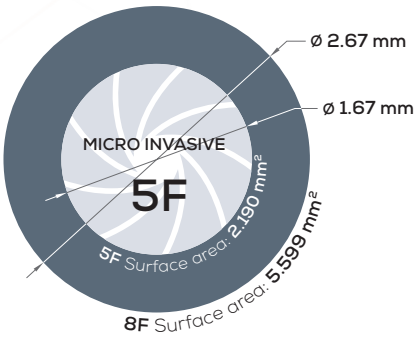
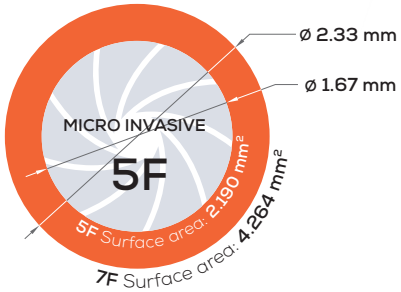
Puncture Site Surface Area (PSSA)

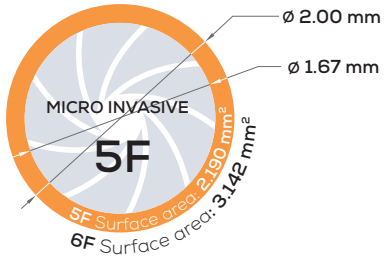
8F PSSA is 255% > 5F



7F PSSA is 195% > 5F



6F PSSA is 145% > 5F



References

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2. Safety and Feasibility of Transradial Access for Noncoronary and Peripheral Vascular Interventions Zia, Saqib et al. Annals of Vascular Surgery, Volume 53, 255 - 261
3. Grossman, et al. Percutaneous Coronary Interventions Complications & Guide Catheter Size "Bigger is not Better"; JACC Vol. 2, No. 7, 2009

* **Official product name:** Peripheral Balloon Expandable Stent System (QBX)

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